

CLAIMS

What is claimed is:

1. An underbooth powder paint collection apparatus positioned beneath a paint application booth having an air circulation system for painting a product with particulate paint, said apparatus comprising:
- 5 a plurality of discreet powder reclamation collectors arranged in aligned rows beneath said booth, wherein each collector includes an upper inlet receiving air and paint particles from said booth and a lower outlet for reclaiming paint particles; and
- continuous aligned air chambers having opposed continuous side walls interconnecting and said inlets of said powder reclamation collectors providing a continuous air plenum communicating with said rows of collectors for directing air and particulate paint not adhered to the product into said discreet powder reclamation collectors.
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2. An assembly as set forth in claim 1, wherein each of said reclamation collectors defines a filter chamber including at least one air filter inserted therein being fluidly connected to said air circulation system.
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3. An assembly as set forth in claim 2, wherein said collectors each include an air supply pressurized to produce a pulse thereby removing powder paint collected upon said at least one air filter.
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4. An assembly as set forth in claim 2, wherein each of said filter chambers includes a side wall defining at least one aperture having said air filter inserted therethrough, said at least one air filter sealing said aperture thereby preventing particulate paint from escaping from said reclamation collectors.

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5. An assembly as set forth in claim 1, wherein adjacent of said reclamation collectors are adjoined by a common panel bowed to define a separate surface in each of said adjacent collectors.

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6. An assembly as set forth in claim 1, wherein each of said continuous air chambers are separable into zones capable of directing air and particulate paint to separate powder collectors.

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7. An assembly as set forth in claim 6, wherein adjacent of said zones are separated in each of said continuous air chambers by a wall positioned across a width of said air chamber.

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8. An assembly as set forth in claim 7, wherein adjacent said powder collectors of adjacent zones abut and include abutting flanges matable for affixing adjacent said powder collectors together.

9. An assembly as set forth in claim 8, wherein said abutting flanges each define at least one aperture alignable for receiving a fastener to mate said abutting powder collectors.

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10 A booth assembly for painting a product with paint, said assembly comprising:

5 a paint application chamber wherein powder paint is applied to the product
a plurality of discrete powder reclamation collectors arranged in a row
beneath said booth, wherein each collector includes an upper inlet receiving air and paint
particles from said booth and a lower outlet for reclaiming paint particles;

an inlet air plenum and a return air plenum, said inlet air plenum providing
an air draft in a downwardly direction in said application chamber forcing paint particles
10 not adhered to the product downwardly towards said plurality of discrete reclamation
collectors and said return plenum receiving filtered air from said reclamation collectors;
and

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a continuous aligned air chamber having opposed continuous side walls
interconnecting and said inlets of said powder reclamation collectors providing a
15 continuous air plenum communicating with said rows of collectors for directing air and
particulate paint not adhered to the product into said discrete powder reclamation
collectors.

11. An assembly as set forth in claim 10, wherein each of said discrete
20 reclamation collectors defines a filter chamber having at least one air filter inserted
therein and being fluidly connected to said air return plenum to filter the powder paint
from the air being received from said reclamation collectors through said air return
plenum.

12. An assembly as set forth in claim 11, wherein said collectors each includes an air supply pressurized to produce a pulse thereby removing powder paint collected upon said at least one air filter.

5 13. An assembly as set forth in claim 11, wherein each of said filter chambers includes a side wall defining at least one aperture having said air filter inserted therethrough, said at least one air filter sealing said aperture thereby preventing air or particulate paint from escaping from said reclamation collectors.

10 14. An assembly as set forth in claim 10, wherein adjacent of said reclamation collectors are adjoined by a common panel bowed to define a separate surface in each of said adjacent collectors.

15 15. An assembly as set forth in claim 10, wherein each of said continuous air chambers is separable into zones for capable of directing air and particulate paint to separate powder collectors.

20 16. An assembly as set forth in claim 15, wherein adjacent of said zones are separated in said continuous air chamber by a wall positioned across a width of said air chamber.

25 17. An assembly as set forth in claim 16, wherein adjacent of said reclamation powder collectors of adjacent zones abut and include adjacent flanges matable for affixing said abutting powder collectors together.

18. An assembly as set forth in claim 17, wherein adjacent said powder collectors of adjacent zones abut and include abutting flanges matable for affixing adjacent said powder collectors together.

5 19. An underbooth powder paint collection apparatus positioned beneath a powder paint application booth having an air circulation system for painting a product with particulate paint, said apparatus comprising:

a plurality of discrete powder reclamation collectors aligned along a length of said paint application booth and being capable of reclaiming particulate paint;

10 an air chamber continuously adjoining said plurality of powder reclamation collectors with said paint application booth thereby funneling air and particulate paint not adhered to the product being painted from the application booth to each of said plurality of discrete powder reclamation collectors.

15 20. An assembly as set forth in claim 19, wherein each of said reclamation collectors defines a filter chamber including at least one air filter inserted therein and being fluidly connected to said air circulation system.

21. An assembly as set forth in claim 20, wherein said collectors includes an
20 air supply pressurized to produce a pulse thereby removing powder paint collected upon said at least one air filter.

22. An assembly as set forth in claim 20, wherein each of said filter chambers includes a side wall defining at least one aperture having said air filter inserted therethrough, said at least one air filter sealing said aperture thereby preventing particulate paint from escaping from said reclamation collectors.

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23. An assembly as set forth in claim 19, wherein adjacent of said reclamation collectors are adjoined by a common panel bowed to define a separate surface in each of said adjacent collectors.

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24. An assembly as set forth in claim 19, wherein each of said continuous air chambers are separable into zones capable of directing air and particulate paint to separate powder collectors.

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25. An assembly as set forth in claim 24, wherein adjacent of said zones are separated in each of said continuous air chambers by a wall positioned across a width of said air chamber.

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26. An assembly as set forth in claim 25, wherein adjacent said powder collectors of adjacent zones abut and include abutting flanges matable for affixing adjacent said powder collectors together.

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27. An assembly as set forth in claim 27, wherein said abutting flanges each define at least one aperture alignable for receiving a fastener to mate said abutting powder collectors.